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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,522	09/16/2003	Anthony Dip	241482US6YA	1707
22850	7590	09/16/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			MARKHAM, WESLEY D	
			ART UNIT	PAPER NUMBER
			1762	
DATE MAILED: 09/16/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/662,522

Applicant(s)

DIP ET AL.

Examiner

Wesley D. Markham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-77 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-77 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1 – 64, drawn to a method of forming a metal-containing film on a substrate, classified in class 427, subclass 248.1.
 - II. Claim 65, drawn to a computer readable medium containing program instructions, classified in class 700, subclass 121.
 - III. Claims 66 – 77, drawn to a system for batch processing a plurality of substrates and a processing tool, classified in class 118, subclass 715.
2. The inventions are distinct, each from the other because of the following reasons:
3. Inventions II and I are related as product and process of use, respectively. The inventions can be shown to be distinct if either or both of the following can be shown:
 - (1) the process for using the product as claimed can be practiced with another materially different product or
 - (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)).In the instant case, the process as claimed (i.e., the method of forming a metal-containing film on a substrate) can be practiced without using a computer readable medium containing program instructions (e.g., the process steps can be carried out manually by an operator, or the processing apparatus used to manufacture the film can be set to a timer).
4. Inventions I and III are related as process and apparatus for its practice, respectively. The inventions are distinct if it can be shown that either: (1) the

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process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the apparatus as claimed can be used to practice another and materially different process, such as (1) a process of producing a non-metal film, or (2) a process in which only a single pulse of each reactant is supplied (e.g., the "repeating the flowing processes" is not carried out).

5. Inventions II and III are related as combination and subcombination, respectively.

Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination only requires a general "batch substrate processing apparatus", not the specifics of the batch processing system / processing tool required by invention III. Additionally, the subcombination has separate utility such as in the manufacture of a film without obtaining program instructions from a computer readable medium (e.g., the apparatus could be operated manually, or the processing apparatus used to manufacture the film could be set to a timer).

6. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification and search, restriction for examination purposes as indicated is proper.

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7. This application contains claims directed to the following patentably distinct species of the claimed invention. The claims in parentheses correspond to the claims which the examiner considers to be readable upon each species:

SPECIES GROUP A

- Using an oxidizing reactant gas to form a metal oxide film (Claims 2, 3, 12, 13, and 61 – 64).
- Using a reducing reactant gas (Claim 14), wherein the reducing gas is H_2 (Claim 15).
- Using a reducing reactant gas (Claim 14), wherein the reducing gas is SiH_4 , Si_2H_6 , Si_2Cl_6 , or $SiCl_2H_2$ (Claim 16).
- Using a reducing reactant gas (Claim 14), wherein the reducing gas has the formula B_xH_{3x} (Claims 17 and 18).
- Using a reducing reactant gas (Claim 14), wherein the reducing gas is NH_3 (Claim 19).
- Using a combination of gases to form a metal oxynitride film (Claims 39 – 42).
- Using a combination of gases to form a metal silicate film (Claims 43 – 46).
- Using a combination of gases to form a nitrogen-containing metal silicate film (Claims 47 – 50).

SPECIES GROUP B

- The metal-containing precursor comprises a metal alkoxide (Claims 53 – 55), wherein the metal alkoxide is Hf or Zr tetra-tertbutoxide (Claim 56).

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- The metal-containing precursor comprises a metal alkoxide (Claims 53 – 55), wherein the metal alkoxide contains an mmp ligand (Claim 57).
- The metal-containing precursor comprises a metal alkylamide (Claims 58 – 60).

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species (i.e., one single species from Group A above, and one single species from Group B above) for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, Claims 1, 4 – 11, 20 – 38, 51, and 52 are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the

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case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

A telephone call was made to Mr. Surinder Sachar on 9/9/2005 to request an oral election to the above restriction requirement, but did not result in an election being made.

Applicant is advised that the reply to this requirement, to be complete, must include an election of the invention to be examined even though the requirement may be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wesley D. Markham whose telephone number is (571) 272-1422. The examiner can normally be reached on Monday - Friday, 8:00 AM to 4:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



WDM

Wesley D Markham
Examiner
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TIMOTHY MEEKS
SUPERVISORY PATENT EXAMINER